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COUNTRY ANALYSIS BRIEFS

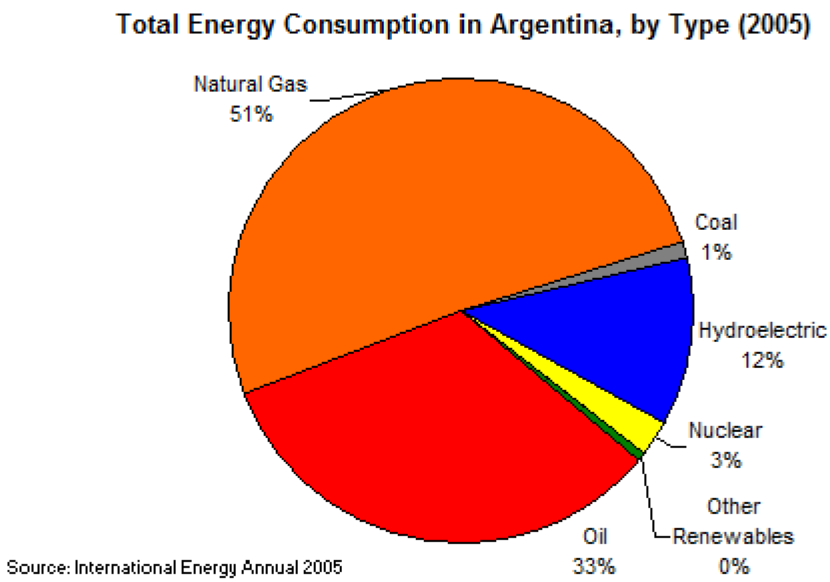
Argentina

Last Updated: February 2008

Background

Argentina is a significant Latin American energy producer and consumer. It is a net energy exporter, primarily to neighboring Brazil and Chile.

Argentina is one of South America's largest economies. Argentina's gross domestic product (GDP) grew by 8.4 percent in 2006 and 7.9 percent in 2007. This high level of economic growth has led to a corresponding increase in the demand for energy, especially natural gas. In contrast to the increase in demand, domestic production of oil and natural gas have stagnated and exports have declined. The imbalance between rising domestic energy demand and falling energy production has reportedly lead to sporadic shortages of electricity and natural gas, such as in June 2007, when the country experienced unusually-cold weather.



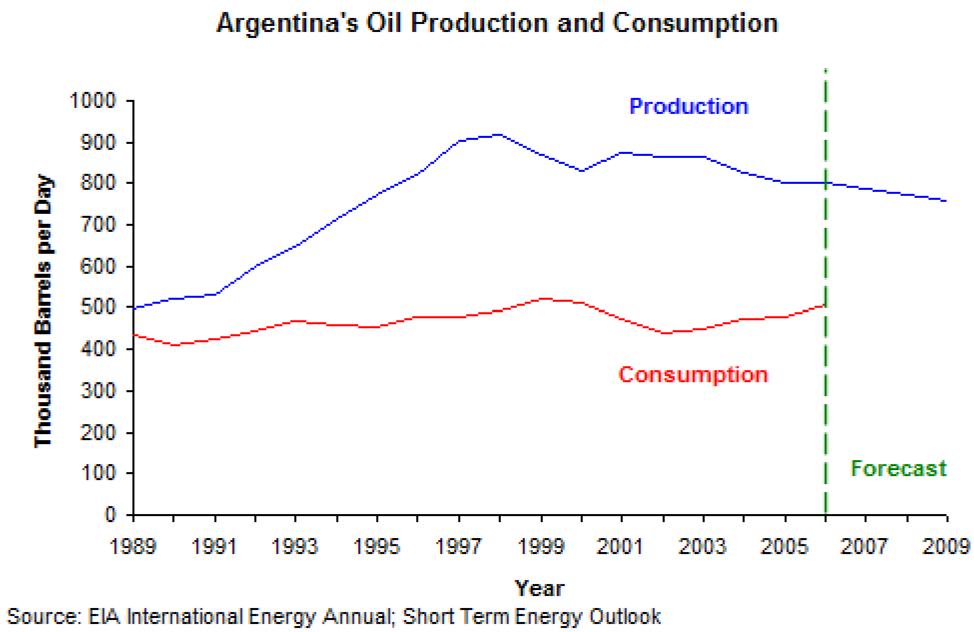
Oil

Argentina is a net oil exporter, though production has declined in recent years.

According to *Oil and Gas Journal* (*OGJ*), Argentina had 2.6 billion barrels of proven oil reserves as of January 2008, up from 2.5 billion barrels in 2007. The country produced an estimated 789,800 bbl/d of oil in 2007; of this amount, 641,000 bbl/d was crude oil, the rest consisting of lease condensates, natural gas liquids, and refinery gain. Argentina's oil production was down from 802,400 bbl/d in 2006 and down from a peak of 916,900 bbl/d in 1998. Oil production in the country has fallen, because producers have not brought enough new capacity online to offset declines at mature fields. However, the rate of the decline in production has eased in recent years. EIA expects that Argentina's oil production will fall to 770,000 bbl/d in 2008 and 760,000 bbl/d in 2009. Argentina consumed an estimated 509,400 bbl/d of oil in 2006, leaving net oil exports in 2006 of 293,000 bbl/d. The bulk of the country's oil exports go to Brazil and Chile.

Exploration and Production

In 1999, the Spanish oil company Repsol merged with Argentina's Yacimientos Petroliferos Fiscales (YPF), the formerly state-owned oil company. Repsol-YPF dominates oil exploration and production activities in Argentina, though the country's oil sector is open to the private sector. Other significant, oil-producing companies in Argentina include Pan American Energy, Chevron, and Petrobras.

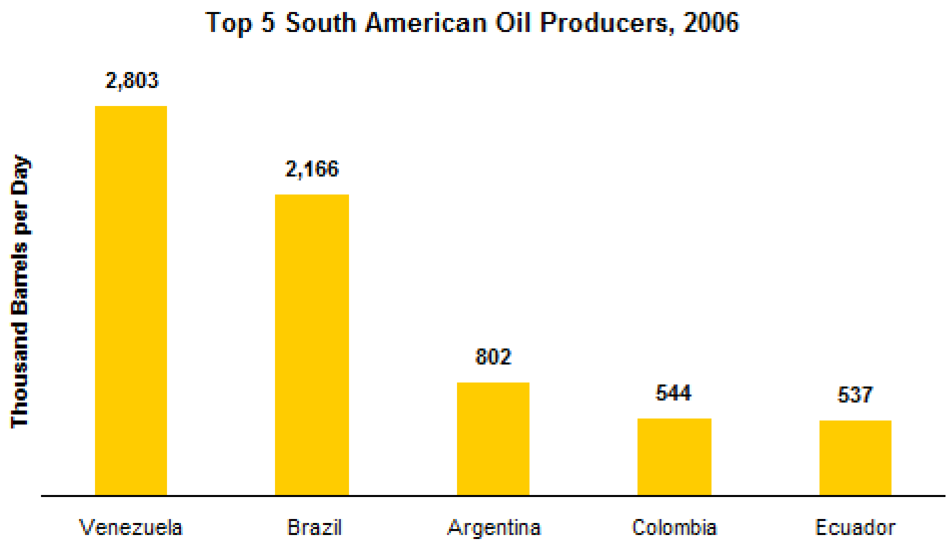


In October 2004, the Argentine government formed a new, state-owned oil company, Enarsa, to promote oil exploration in the country. While the company is still in the early stages of its development, it has signed joint exploration deals with foreign oil companies. Enarsa has also taken over responsibility for the management of natural gas imports from Bolivia.

Two onshore basins represent the vast majority of Argentina's crude oil production: Neuquen, in western-central Argentina, and Golfo San Jorge, in the southeast. In early 2008, Pan American Energy announced that it had confirmed the discovery of 100 million barrels of oil equivalent reserves at its Cerro Drago concession, in the southern part of the country. Outside the established onshore basins, there has been some interest in exploring offshore oil resources. In 2004, Petrobras acquired a license to explore the CAA-1 and CAA-8 blocks located off the country's central-east coast. In December 2006, Enarsa launched a joint offshore exploration program with Repsol-YPF in the Cuenca Colorado Marina region; Repsol-YPF reportedly completed its seismic exploration activities in the region in early 2008.

Pipelines

Argentina's three major crude oil pipelines all start at Puerto Hernandez, in the Neuquen basin. Two pipelines are domestic, transporting crude oil north to the Lujan de Cuyo refinery near Mendoza and east to Puerto Rosales on the Atlantic. The 268-mile, 115,000 bbl/d Transandino pipeline is Argentina's only international oil pipeline, climbing over the Andes to a refinery in Chile; industry reports indicate that this pipeline is currently not operational.



Source: EIA International Energy Annual

Downstream Activities

According to *OGJ*, Argentina had 626,000 bbl/d of crude oil refining capacity as of January 2008. Repsol-YPF dominates the downstream oil industry in Argentina, accounting for about half of the country's total refining capacity. Other companies with significant refining capacity include Shell (110,000 bbl/d), ExxonMobil (86,000 bbl/d), and Petrobras (66,600 bbl/d). In December 2006, the Argentine government announced that it had reached agreement with several private oil companies to build a new, 150,000-bbl/d refinery in the country. The General Mosconi II refinery would cost an estimated $4 billion and would produce refined products for both domestic consumption and export.

Natural Gas

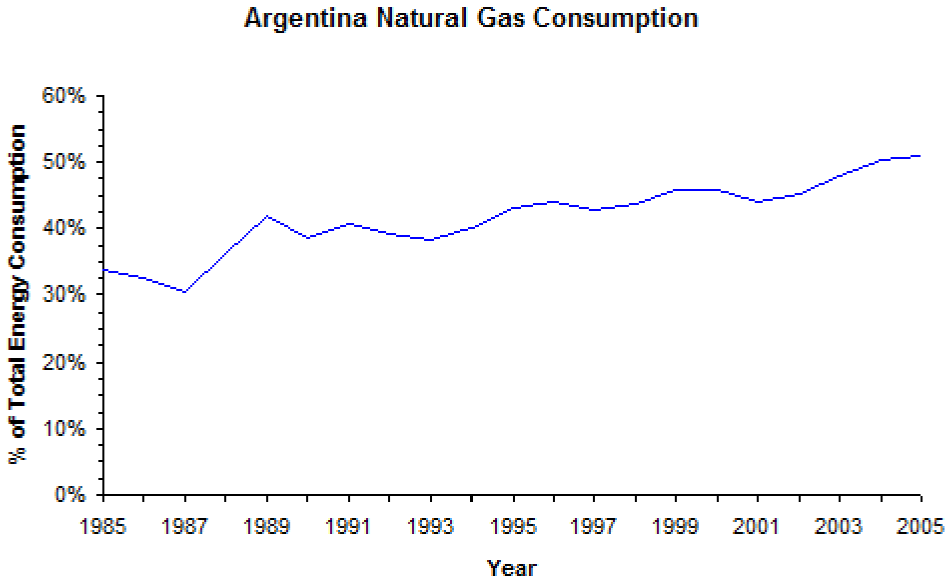
Argentina is the largest natural gas producer in South America.

OGJ reported that Argentina had 15.8 trillion cubic feet (Tcf) of proven natural gas reserves in January 2008, the third-largest amount in South America. Natural gas production in the country has steadily increased over the last decade; in 2006, Argentina produced 1.63 Tcf of natural gas, nearly double 1996 levels. Argentina's natural gas consumption has also risen significantly in the past decade and is the country's dominant fuel source, accounting for 51 percent of primary energy consumption in 2005.

Argentina is a net exporter of natural gas, principally to Chile. However, this relationship has been strained since 2004, because Argentina has repeatedly reduced natural gas exports to Chile to make up for domestic shortages. Argentina is Chile's sole source of natural gas imports, and the continuing supply disruptions have caused Chile to pursue alternatives for its future import needs.

Sector Organization

Argentina began deregulating natural gas production in 1989 as part of its privatization of YPF. As with the oil industry, YPF (now Repsol-YPF) retains a dominant position in the upstream sector. The second-largest natural gas producer in Argentina is Total. Two companies, Transportadora de Gas del Sur (TGS) and Transportadora de Gas del Norte (TGN), control Argentina's natural gas transmission system: TGS, controlled by Petrobras, is South America's largest pipeline company, delivering the majority of Argentina's total natural gas consumption. The distribution portion of Argentina's natural gas market is dominated by MetroGas SA, Gas Natural Ban SA, Camuzzi Gas Pampeana SA, and Camuzzi Gas del Sur SA. Many of the large distribution companies have strong foreign ownership.



Source: Brazil Ministry of Agriculture; EIA Short Term Energy Outlook

Exploration and Production

The Neuquen, Salta, Tierra del Fuego, and Santa Cruz regions contain most of Argentina's natural gas production, with the Neuquen region accounting for over half of the country's total production. As is the case in the oil sector, Argentina has begun to look towards its offshore basins as its traditional production centers have matured. Upon the creation of Enarsa in 2004, the Argentine government transferred all unallocated offshore exploration blocks to the new company and authorized it to seek partnerships with foreign companies: in January 2005, Enarsa signed an agreement with a consortium led by Petrobras to explore three offshore blocks in the Colorado Marina Basin.

Pipelines

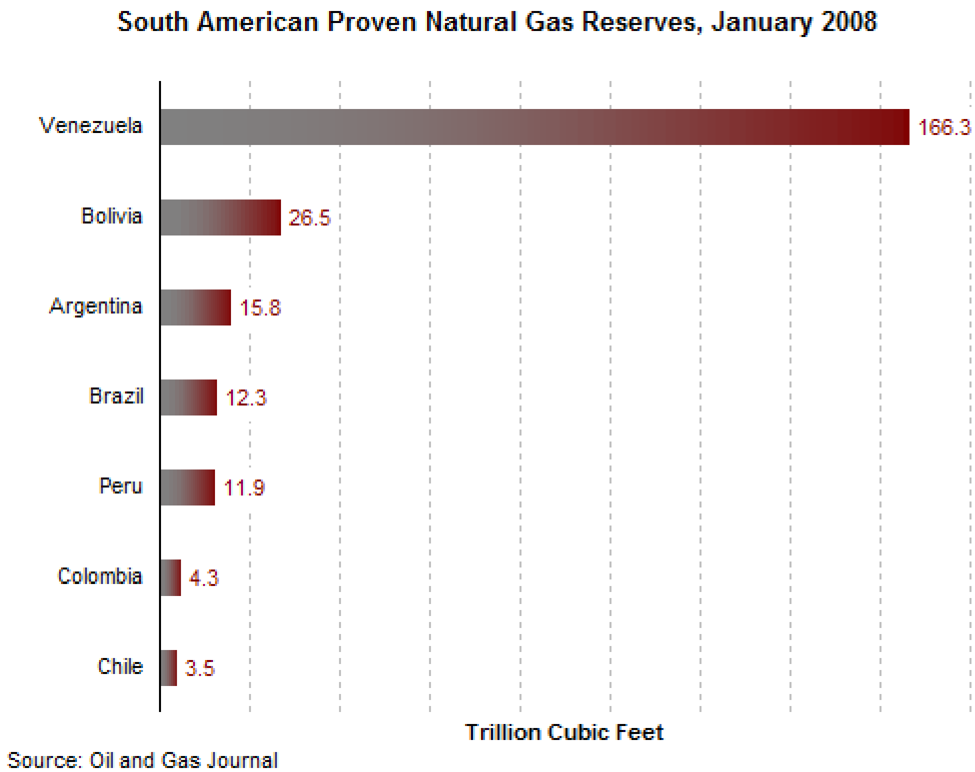
Domestic System

TGS operates the 2,130-mile San Martin pipeline, which has a capacity of 1,020 million cubic feet per day (MMcf/d) and connects the southern part of the country with Buenos Aires. TGS also operates the Neuba I and II pipelines. TGN operates two main pipelines. The first, the 900-mile, 800-MMcf/d Norte, runs from Campo Duran to the main compressor plant in San Jeronimo, eventually reaching Buenos Aires. The second pipeline, the 700-mile, 1,180-MMcf/d Centro Oeste, runs from the Loma la Lata field, Neuquen province, to San Jeronimo.

International Connections

Argentina has extensive pipeline linkages with its neighbors, including several pipelines connecting Argentina to Chile. Three in the south; Tierra del Fuego, El Condor-Posesion, and Patagonia supply methanol plants in Chile. In the north, the 580-mile, 300-MMcf/d GasAtacama pipeline runs from Cornejo, Argentina to Mejillones, Chile. Owned by Endesa and U.S.-based CMS, GasAtacama supplies the companies' Nopel power plant. Also in the north, the 250-MMcf/d NorAndino, operated by Belgium's Tractebel, runs parallel to GasAtacama. In the central region, the 290-mile, 310-MMcf/d GasAndes pipeline, majority owned by TotalFinaElf, connects the Neuquen basin in Argentina to Santiago, Chile. Also in the central region, the 330-mile, 340-MMcf/d Gasoducto del Pacifico connects Neuquen to central Chile. An international consortium, consisting of TransCanada, El Paso, and Gasco, operates Gasoducto del Pacifico, which supplies municipal distributors and gas-fired power plants.

The 280-mile, 100-MMcf/d Parana-Uruguayana pipeline connects Argentina and Brazil. The pipeline provides natural gas to AES Brasil Energia's 600-MW power plant in Uruguayana. The Argentine section is operated by Transportadora de Gas de Mercosur; the 20-mile Brazilian section is operated by Transportadora Sul Brasileira de Gas. There are plans to construct a 384-mile extension of the system from Uruguayana to Porte Alegre, where the pipeline would supply thermal power plants.



In January 2003, Argentine natural gas began to flow to Montevideo, Uruguay, through the 250-mile, 190-MMcf/d Gasoducto Cruz del Sur (GCDS, Southern Cross pipeline). The GCDS project also includes a concession covering a possible extension from Uruguay to Porto Alegre in southern Brazil. Major partners in the GCDS project are British Gas and Pan American Energy.

Imports from Bolivia

While Argentina is a net exporter of natural gas, it also imports natural gas from Bolivia through the 270-mile, 230-MMcf/d Yacimientos-Bolivian Gulf (Yabog) pipeline. This pipeline serves Argentina's northern regions, which are not well supplied by the domestic natural gas transmission network. Argentina began importing natural gas again from Bolivia in 2004 to cover a domestic shortfall, which it had not done since 1999. Argentina continued to import gas from Bolivia following the end of that energy crisis.

In October 2006, the two countries signed a deal for Argentina to import natural gas for an additional 20 years. Under the terms of the deal, Argentine imports from Bolivia will eventually approach one billion cubic feet per day (Bcf/d), a fourfold increase from current levels. The price that Argentina pays for the natural gas will also increase and eventually become linked to market rates. To facilitate this increase in volume, Argentina and Bolivia would build a new, $2 billion pipeline system connecting the two countries; dubbed the Gasoducto del Noreste Argentino (GNEA), the system would have a maximum capacity of 710 MMcf/d and include an integrated natural gas liquids (NLG) plant. According to industry reports, construction of GNEA is expected to start in mid-2008, with completion by 2010.

Liquefied Natural Gas

Argentina has considered multiple proposals to build LNG receiving terminals, to help alleviate domestic supply shortfalls. In November 2007, Enarsa signed a deal with Ancap, the Uruguayan state oil company, to build an LNG terminal in Montevideo. The project would supply both countries evenly and could possibly take advantage of existing pipeline infrastructure. The LNG plant would have an initial sendout capacity of 350 MMcf/d, at a projected cost of $1 billion. Enarsa has also held talks with Venezuelan state oil company PdVSA about building an LNG receiving terminal in Argentina, coordinated with a liquefaction terminal in Venezuela. However, neither project has reportedly moved beyond initial planning stages.

Electricity

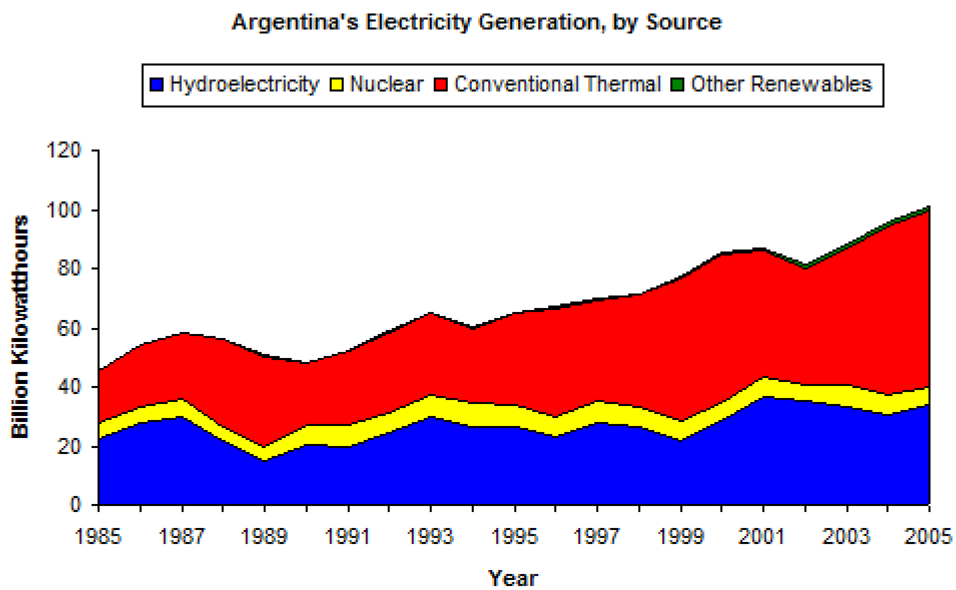
Argentina has the third-largest electricity market in Latin America.

Argentina has the third-largest power market in Latin America, relying mostly on hydropower and natural gas-fired thermal plants for most of its electricity supply. In 2005, Argentina generated 101.1 billion kilowatthours (Bkwh) and consumed 89.0 Bkwh of electricity. Demand has steadily grown since 1991.

Sector Organization

Argentina has one of the most competitive, deregulated power sectors in South America. The functions of generation, transmission, and distribution are open to the private sector, but there are restrictions on cross-ownership between these three functions. Argentine law guarantees access to the grid in order to create a competitive environment and to allow generators to serve customers anywhere in the country.

Private and state-owned companies carry out generation in a competitive, mostly-liberalized market. Power generators sell their electricity in a wholesale market operated by the Compania Administradora del Mercado Mayorista Electrico (CAMMESA). The distribution sector is more heavily regulated and less competitive, with three primary distribution companies (Edenor, Edesur and Edelap) controlling the market.



Source: EIA International Energy Annual

In the transmission sector, the Compania Nacional de Transporte Energetica en Alta Tension (Transener) operates the national electricity transmission grid under a long-term agreement with the Argentine government. In November 2006, the Inter-American Development Bank approved a $580 million loan for the construction of a new 760-mile transmission line in northern Argentina that will connect separate grids in the northeastern and northwestern parts of the country.

Hydroelectricity

The Yacyreta hydroelectric dam, with 3,500 megawatts (MW) of installed capacity, is the largest power plant in Argentina. Argentina and co-owner Paraguay share the electricity generated from Yacyreta evenly, with almost all of Paraguay's share exported to Argentina. The 1,890-MW Salto Grande is another bi-national project, owned by the governments of Argentina and Uruguay; in May 2006, Uruguay and Argentina launched a study on a proposed new hydroelectric facility near Salto Grande that would have an installed capacity of 265 MW.

Industry observers believe that Argentina has the potential to significantly expand its hydroelectric generating capacity, as the country has only exploited an estimated 20 percent of its surveyed hydroelectric potential. In late 2007, Argentina accepted proposals for the construction of two new hydroelectric power plants along the Santa Cruz River: the two plants, La Barrancosa and Condor Cliff, would have a combined installed capacity of 1,700 MW.

Conventional Thermal

Argentina has sought increased investment in conventional thermal capacity as a way to meet rising electricity consumption. Most new conventional thermal capacity has consisted of plants fired by natural gas. For example, the government has awarded contracts to a consortium led by Siemens for the construction of two gas-fired power plants with a combined capacity of 830 MW, to be built in Buenos Aires and Santa Fe provinces. The country has also explored other sources of conventional thermal capacity: in December 2006, the Argentine government launched a tender for a new 240-MW coal-fired power plant in Santa Cruz province, at an estimated cost of $500 million.

Nuclear Power

Argentina has two nuclear power plants in operation: the 360-MW Atucha I and the 650-MW Embalse facilities. Nucleoelectrica Argentina SA owns and operates both plants. Construction on a third plant, Atucha II, ceased in the 1990s, due to political and financial concerns. The Comision Nacional de Energia Atomica (CNEA) has principle regulatory oversight of the sector.

In 2006, the Argentine government announced a new initiative to revitalize the nuclear power industry in the country. The initiative includes the completion of the 750-MW Atucha II reactor, the extension of the planned operating life of the Embalse facility by 30 years, and a feasibility study for the construction of a fourth nuclear power plant in the country. In August 2007, Argentina officially broke ground on the completion of the Atucha II project. Also in 2007, CNEA began the process to re-activate the Sierra Pintada and Don Otto uranium mines, to provide additional feedstock for the domestic nuclear program.

Profile

Energy Overview

Proven Oil Reserves (January 1, 2008E)	2.6 billion barrels
Oil Production (2006E)	802 thousand barrels per day
Oil Consumption (2006E)	509 thousand barrels per day
Crude Oil Distillation Capacity (2007E)	625 thousand barrels per day
Proven Natural Gas Reserves (January 1, 2008E)	15.8 trillion cubic feet
Natural Gas Production (2006E)	1,628 billion cubic feet
Natural Gas Consumption (2006E)	1,475 billion cubic feet
Recoverable Coal Reserves (2004E)	467 million short tons
Coal Production (2006E)	0 million short tons
Coal Consumption (2006E)	2 million short tons
Electricity Installed Capacity (2005E)	28 gigawatts
Electricity Production (2005E)	101 billion kilowatt hours
Electricity Consumption (2005E)	89 billion kilowatt hours
Total Energy Consumption (2005E)	3 quadrillion Btus*, of which Natural Gas (51%), Oil (33%), Hydroelectricity (12%), Nuclear (3%), Coal (1%), Other Renewables (0%)
Total Per Capita Energy Consumption (2004E)	74 million Btus
Energy Intensity (2005E)	6,172 Btu per $2000-PPP**

Environmental Overview

Energy-Related Carbon Dioxide Emissions (2005E)	146 million metric tons
Per-Capita, Energy-Related Carbon Dioxide Emissions	3.7 metric tons

(2005E)	
Carbon Dioxide Intensity (2005E)	0.3 Metric tons per thousand $2000-PPP**

Oil and Gas Industry

Organization	Open to private companies. The most important producer is Repsol-YPF. The Argentine government has recently created a new, state-owned energy company, Enarsa, which does not yet have any production assets.
Major Oil/Gas Ports	Bahia Blanca, Buenos Aires, La Plata
Foreign Company Involvement	Repsol-YPF, Petrobras, Pan American Energy, Chevron,
Major Oil and Natural Gas Basins	Neuguina, Golfo San Jorge, Salta, Tierra del Fuego
Major Pipelines (capacity, Mmcf/d)	Transandino (115,000 bbl/d), San Martin (1,000 Mmcf/d), Norte (800 Mmcf/d), Centro Oeste (1,180 Mmcf/d)
Major Refineries (capacity, bbl/d)	Repsol-YPF La Plata (189,000), Shell Buenos Aires (110,000), Repsol-YPF Lujan de Cuyo (105,500, ExxonMobil Campana (86,000)

* The total energy consumption statistic includes petroleum, dry natural gas, coal, net hydro, nuclear, geothermal, solar, wind, wood and waste electric power. The renewable energy consumption statistic is based on International Energy Agency (IEA) data and includes hydropower, solar, wind, tide, geothermal, solid biomass and animal products, biomass gas and liquids, industrial and municipal wastes. Sectoral shares of energy consumption and carbon emissions are also based on IEA data.
**GDP figures from OECD estimates based on purchasing power parity (PPP) exchange rates.

Links

EIA Links

EIA - Argentina Energy Profile

U.S. Government

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U.S. State Department Background Notes - Argentina
U.S. State Department's Consular Information Sheet - Argentina

Foreign Government Agencies

Argentina's Ministry of Energy
Argentine National Statistic Office
Central Bank (Argentina)
ENERGAS

Oil and Natural Gas

Repsol-YPF
Tecpetrol
TGN
TGS
Totalgaz Argentina

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